



SS – 682

V Semester B.C.A. Examination, November/December 2018

(CBCS) (F+R)

(2016 – 17 & Onwards)

COMPUTER SCIENCE

BCA – 501 : Data Communication and Networks

Time : 3 Hours

Max. Marks : 100

**Instruction :** Answer *all* Sections.

SECTION – A

I. Answer **any ten** questions. **Each** question carries **two** marks. (10×2=20)

- 1) Mention four network topologies.
- 2) What is telnet ? How it differs from FTP ?
- 3) What is meant by protocol and internet protocol suite ?
- 4) Define encoding and decoding.
- 5) What is piggybacking ? What is its purpose ?
- 6) What is the difference between ethernet and fast ethernet ?
- 7) Define bit rate and baud rate.
- 8) What do you mean by Nyquist signalling rate ? Explain.
- 9) What is CSMA and CSMA/CD ?
- 10) What do you mean by IEEE 802.11 standards ?
- 11) What do you mean by flooding ? Explain.
- 12) Define datagram and packet.

P.T.O.



## SECTION - B

II. Answer **any five** questions. **Each** question carries **five** marks. **(5×5=25)**

- 13) Explain circuit switching.
- 14) How many layers are there in TCP/IP model ? Mention the function of each layer.
- 15) Explain twisted pair cable as transmission medium.
- 16) Describe FDDI.
- 17) Explain 2-d parity check for error detection.
- 18) Explain HDLC frame structure.
- 19) Explain the differences between connection and connectionless services.
- 20) Explain the role of the following network devices :
  - i) Hub
  - ii) Switch
  - iii) Bridge
  - iv) Router
  - v) Repeater.

## SECTION - C

III. Answer **any three** questions. **Each** question carries **fifteen** marks. **(3×15=45)**

- 21) a) Explain digital representation of information.  
b) Write a note on polynomial code with suitable example. **(7+8)**
  - 22) a) Explain optical fibre as transmission medium.  
b) Explain different types of bridges in computer networks. **(7+8)**
  - 23) a) Explain stop and wait ARQ with a neat diagram.  
b) Explain ALOHA and Slotted ALOHA. **(7+8)**
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24) a) Explain frequency division multiple access and time division multiple access.

b) Explain sliding window method of flow control. **(8+7)**

25) a) Explain LLC and MAC sublayers of data link layer.

b) What do you mean by peer-to-peer protocol ? Compare PPP with HDLC. **(8+7)**

**SECTION – D**

**IV. Answer any one question. Each question carries ten marks. (1×10=10)**

26) Explain OSI reference model in detail.

27) Explain any two routing algorithms.



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V Semester B.C.A. Examination, November/December 2017  
(CBCS Scheme) (F+R)  
(2016 – 17 & Onwards)  
BCA – 501 : DATA COMMUNICATION AND NETWORKS

Time : 3 Hours

Max. Marks : 100

**Instruction :** Answer all the Sections.

SECTION – A

Answer **any ten** questions. **Each** question carries **two** marks. (10×2=20)

1. Define SNR.
2. What is modem?
3. What is FTP ?
4. What do you mean by IP utility ? Give an example.
5. What is Network Topology ? List out any two network topologies.
6. Define attenuation.
7. Write any two differences between analog and digital signals.
8. What is cellular telephone network ?
9. What is reservation ?
10. What do you mean by centralized polling ?
11. Define Ethernet.
12. What is flooding ?

SECTION – B

Answer **any five** questions. **Each** question carries **five** marks. (5×5=25)

13. Explain packet switching.
14. Explain Shannon capacity.

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15. What is multiplexing ? Explain TDM.
16. Differentiate connectionless and connection oriented services.
17. Explain the structure of HDLC frames.
18. Illustrate CSMA.
19. Describe FDDI.
20. Write Bellman Ford Algorithm.

SECTION – C

Answer **any three** questions. **Each** question carries **fifteen** marks. **(3×15=45)**

21. a) Explain OSI reference model with a neat diagram. 8  
b) Illustrate polynomial code with an example. 7
22. a) Describe twisted pair cable. 8  
b) Explain SONET. 7
23. a) What is a bridge ? Explain the various types of bridges. 7  
b) Explain FDMA, TDMA and CDMA. 8
24. a) What is digital modulation ? Explain the types of digital modulation techniques. 7  
b) Describe selective repeat ARQ. 8
25. a) Illustrate the two sublayers of data link layer. 7  
b) Illustrate openloop congestion control. 8

SECTION – D

Answer **any one** question. **Each** question carries **ten** marks. **(1×10=10)**

26. Explain TCP/IP model with a neat diagram.
  27. Illustrate polar line encoding scheme.
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V Semester B.C.A. Degree Examination, Nov./Dec. 2016  
(CBCS) (16-17 and Onwards)

COMPUTER SCIENCE

BCA-501 : Data Communication and Networks

Time : 3 Hours

Max. Marks : 100

**Instruction :** Answer **all** the Sections.

SECTION – A

Answer **any ten** questions. **Each** carries **2** marks.

(10×2=20)

1. Write any two examples of data communication modes.
2. Expand NIC and TCP.
3. What are the two types of LAN standards ?
4. What is a switch ?
5. Write any two differences between analog and digital signals.
6. Define multiplexing.
7. Expand HDLC and PPP.
8. What is framing ?
9. What is the use of repeaters ?
10. Expand FDDI and CSMA.
11. What is ethernet ?
12. What is meant by choke pocket ?

SECTION – B

Answer **any five** questions. **Each** carries **5** marks.

(5×5=25)

13. Explain the types of transmission modes.
14. Compare mesh topology with star topology.
15. Explain the concept of checksum.
16. Explain the types of errors.

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17. Write short notes on piggy backing.
18. Explain the channelization method of CDMA.
19. Differentiate datagrams with virtual circuits.
20. Explain the flooding algorithm.

SECTION – C

Answer **any three** questions. **Each** question carries **15** marks. **(3×15=45)**

21. a) Explain the types of networks. **7**
- b) Explain the function of OSI model layers. **8**
22. Explain the following :
  - a) Pulse Code Modulation **5**
  - b) SONET multiplexing **5**
  - c) Coaxial cable. **5**
23. Explain the following :
  - a) CRC method **7**
  - b) Stop-and-Wait-ARQ algorithm. **8**
24. a) Write short notes on ALOHA protocols. **7**
- b) Explain CSMA protocols. **8**
25. Explain the following :
  - a) Dijkstra's algorithm **10**
  - b) Token bucket algorithm. **5**

SECTION – D

Answer **any one** question : **(1×10=10)**

26. Compare packet switching with circuit switching.
27. Explain the following :
  - a) Modems **4**
  - b) Congestion control. **6**